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ABSTRACT

The Minnesota Reading Examination for College Students and the Minnesota Speed of Reading Test were administered to 865 University of Minnesota freshmen in 1978. When these test results were compared to the scores on the same tests that 1,313 freshmen and 4,191 high school seniors received in 1928, the 1978 students scored significantly lower than their 1928 counterparts on vocabulary, reading comprehension, and rate of reading. The 1978 freshmen were at least one grade level below the 1928 students on reading ability, reading no better than the high school juniors or seniors of 50 years ago. Although speculations of societal and educational changes are offered as possible causes for the decline in reading ability, no clearcut evidence exists on the reasons for the decline. (RL)

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The Reading Abilities of College Students--After Fifty Years

Alvin C. Eurich

The decline of student scholastic ability and achievement test scores has been well documented for short periods of time from five, ten to fifteen years. The question naturally arises, however, whether proficiency in these skills has declined over longer periods, the past fifty to one hundred years. Such questions are hard to answer objectively since standardized achievement tests are of recent origin. Subjective judgements or impressions are often expressed but they cannot be relied upon. This study attempts to provide an answer objectively on whether there has been a decline in the reading abilities of college students over a fifty-year span.

Method

During the late 1920s, I designed and conducted experiments to improve the reading abilities of freshmen at the University of Minnesota. To measure the effectiveness of the reading program, I prepared and standardized two reading examinations.

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The Minnesota Reading Examination for College Students. This test consists of two parts. Part I, a vocabulary test, asks the student to define 100 words by selecting the correct meaning from five alternative choices. The items are arranged in order of difficulty, based on the percentage of correct responses made by University freshmen. Part II, a test of reading comprehension, consists of ten reading passages also arranged in order of difficulty from the easiest to the most difficult. Following each paragraph is a series of statements. The student is asked to select the one that correctly interprets the paragraph.

The Minnesota Speed of Reading Test. This test includes 38 paragraphs; the reading time allotted is exactly six minutes. Within each paragraph, an extraneous or absurd phrase is inserted which the student is to cross out. In this way, the rate of reading with comprehension is determined.

Both statistical reliability and validity of these tests were well established. They were standardized; and, norms were set by administering them in the autumn of 1928

to freshmen at the University of Minnesota's College of Science, Literature and the Arts and to high school seniors in the Minneapolis and St. Paul, Minnesota public schools.

These same reading tests, all available during the past half century through the University of Minnesota Press, were given in 1978 for a longitudinal comparison of reading performance changes over fifty years. The conditions at the University of Minnesota were especially favorable for such a comparison. The admission criteria had not changed as they have at a number of other institutions, most notably at the City University of New York which changed from highly selective to open admission. By Charter, the University of Minnesota has always admitted any graduate from an accredited high school.

The University, however, during the past fifty years has reorganized and established a General College for students with lower ranking academic ability. Consequently, to obtain a sample in 1978 comparable to that tested in 1928, freshmen in both the College of Liberal Arts and the General

College had to be tested.

In 1928, the tests were administered to a total of 1,313 students enrolled in freshman English sections of the College of Science, Literature, and the Arts. Both the vocabulary and reading comprehension tests were also given in 1928 to 4191 high school seniors. In 1978, the tests were given to a sample of 865 students enrolled in freshman English sections in both the College of Liberal Arts and the General College.

Only University freshmen were compared on reading rate in 1928 and 1978. For vocabulary and reading comprehension, the 1978 samples were compared with both the 1928 University freshman and 1928 high school seniors.

Testing conditions had changed during the fifty year span. In 1928, when a test was given to a class, all students were required to take it. By 1978, for this type of testing for research purposes, students had to be told that the test was not a course requirement and that participation was optional. Consequently, a number of students chose not to take the test.

Because of this change in conditions, it was necessary to determine whether or not students actually tested represented a random sample of freshmen. The University officials provided information on high school rank and on the verbal and mathematics sections of the Preliminary Scholastic Aptitude Test. Because of the Right to Privacy Act, the University could not provide the scores by names without obtaining the consent of every student involved, which was virtually impossible. The names of all students who took the reading tests were, therefore, sent to the University where appropriate personnel collected the high school ranks and verbal and mathematics entrance test scores, and calculated the means for the two separate colleges. Comparisons were then made with the corresponding student populations and the samples of both colleges which took the tests.

Findings

In summary, the General College Sample mean on the verbal entrance test ($\overline{X}$ = 35.8) was significantly higher

than the corresponding current student population mean ($\bar{X}$ = 33.6). The sample did not differ, however, significantly from the total population on high school rank or on the mathematics entrance test.

For the College of Liberal Arts, the sample mean on high school rank ($\bar{X}$ = 77.4) was significantly higher than the corresponding population mean ($\bar{X}$ = 75.8). The sample mean on the verbal test ($\bar{X}$ = 44.2), however, was significantly lower than the population mean ($\bar{X}$ = 44.6). There was no significant difference between the sample and total population means on the mathematics entrance test.

The comparisons reveal that the 1978 sample differed only slightly on the verbal mean scores with one sample scoring higher and the other lower. Also, the 1978 sample generally had similar high school ranks and verbal and mathematics test scores. Although these comparisons need to be considered when interpreting the difference in reading ability between the 1928 and 1978 freshmen, for practical purposes the sample can be considered representative of the total student population.

On vocabulary (Part I of the Minnesota Reading Examination for College Students), the 1978 University freshmen ($\bar{X}$ = 28.75) scored significantly lower than both the 1928 freshmen ($\bar{X}$ = 34.90) and 1928 high school seniors ($\bar{X}$ = 34.95). In fact, the high school seniors tested in the spring of 1928 scored approximately the same on vocabulary as the University freshmen in the autumn of 1928. The difference between the 1928 and 1978 groups, as shown on Figure I is consistent throughout the whole range of scores. For example, approximately 50% of the 1978 freshmen had a score below 26; whereas, only about 40% of the 1928 freshmen did. Even more striking is the noticeable decline by 1978 in the performance of the most gifted students, the top one percent. No student tested in 1978 scored higher than 74 (a drop of some 20 points from the 1928 high score); and, only one student out of 100 in 1978 scored near 60, a score attained by five out of a hundred students (five percent) in 1928.

In reading comprehension (Part II of the Minnesota Reading Examination for College Students), the 1978 freshman mean score ($\bar{X}$ = 12.75) was again significantly lower than that for 1928 freshmen ($\bar{X}$ = 15.46), as shown in Figure II.

FIGURE I.

THE MINNESOTA READING EXAMINATION

Part I Vocabulary

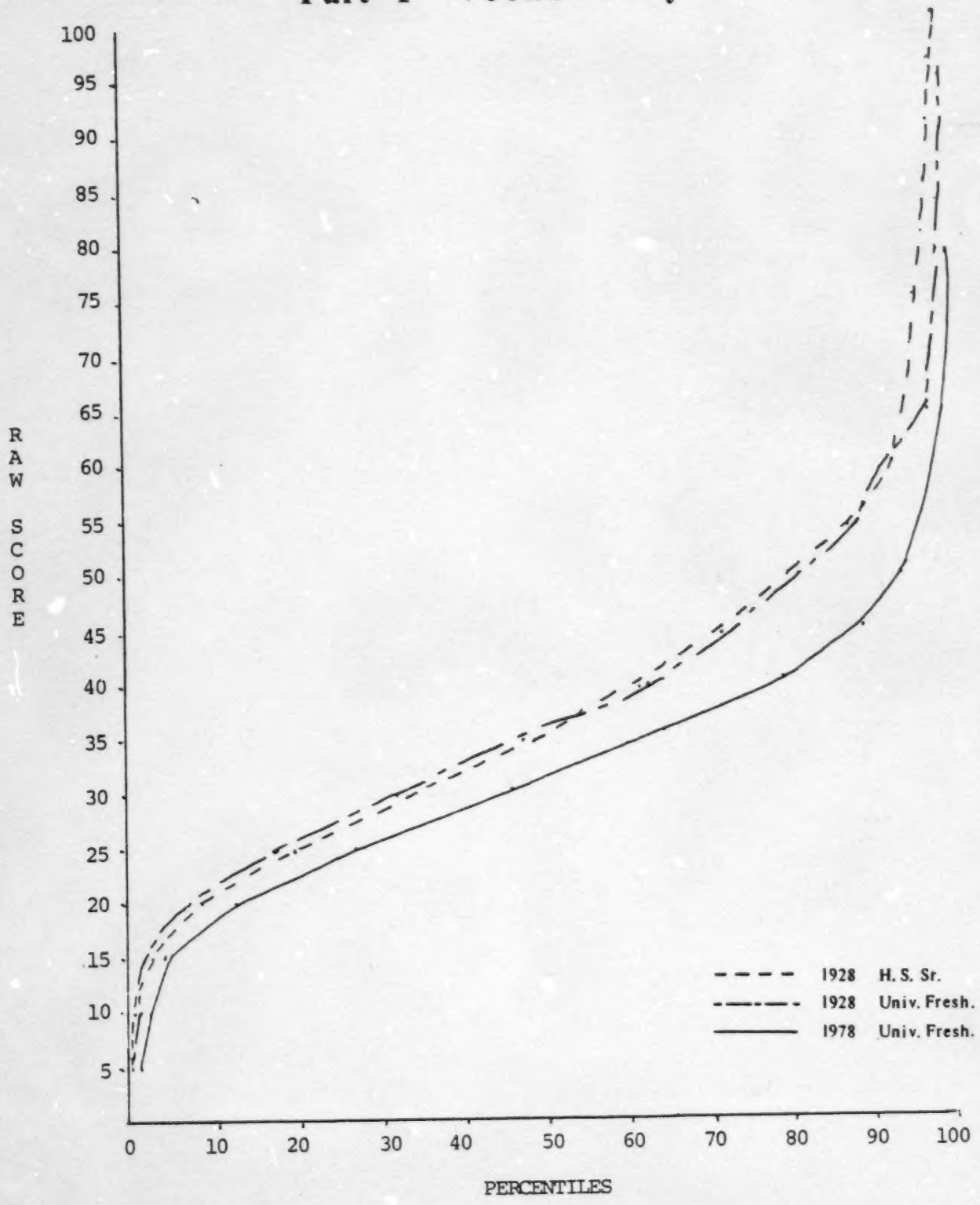
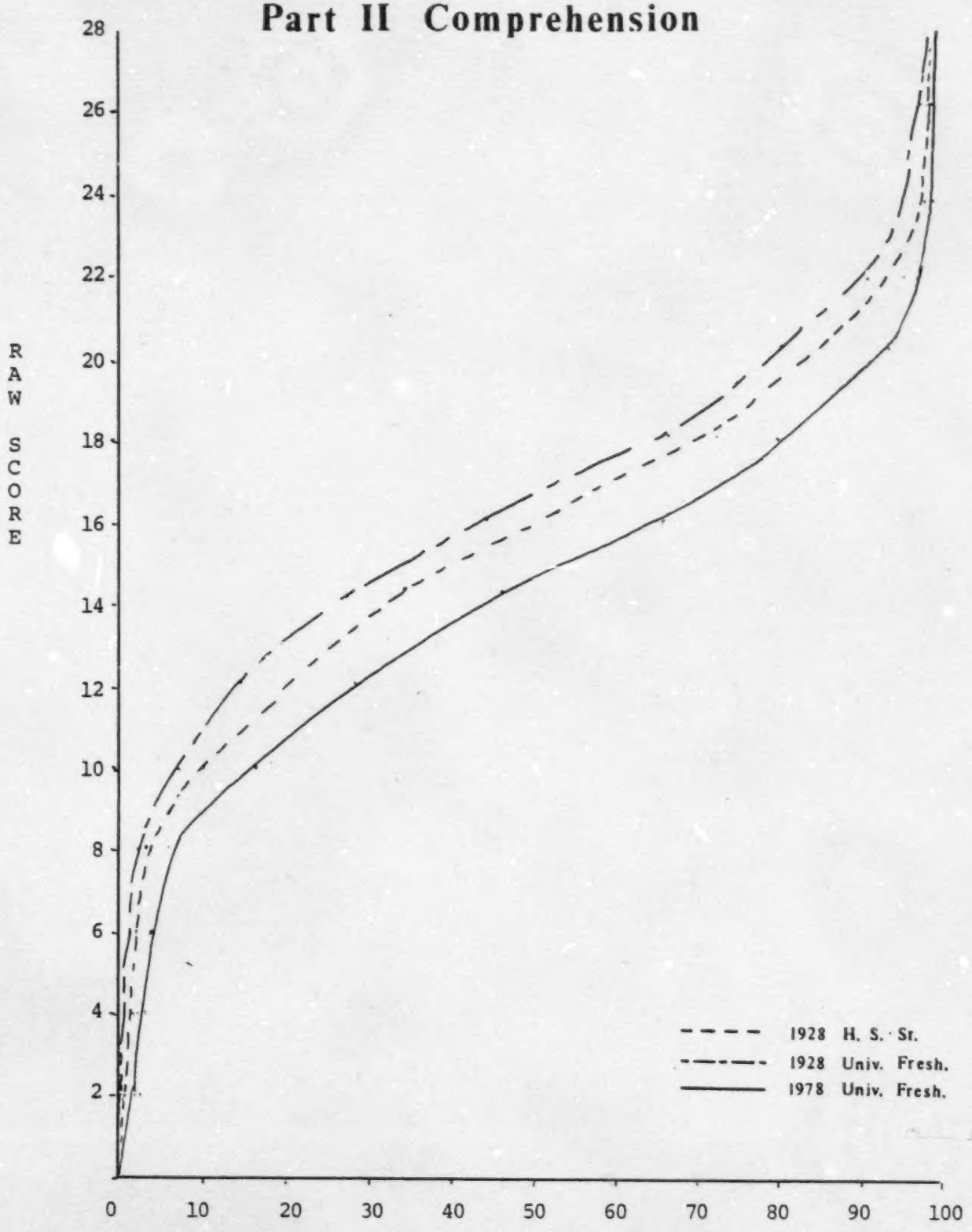


FIGURE II.

THE MINNESOTA READING EXAMINATION

Part II Comprehension



10 PERCENTILES

On this reading skill, the 1928 high school seniors scored midway between the 1978 and 1928 University freshmen. Approximately 50% of the 1978 freshmen fell below a score of 12; in contrast, only 40% of the 1928 high school seniors and 30% of the 1928 University freshmen fell below this score.

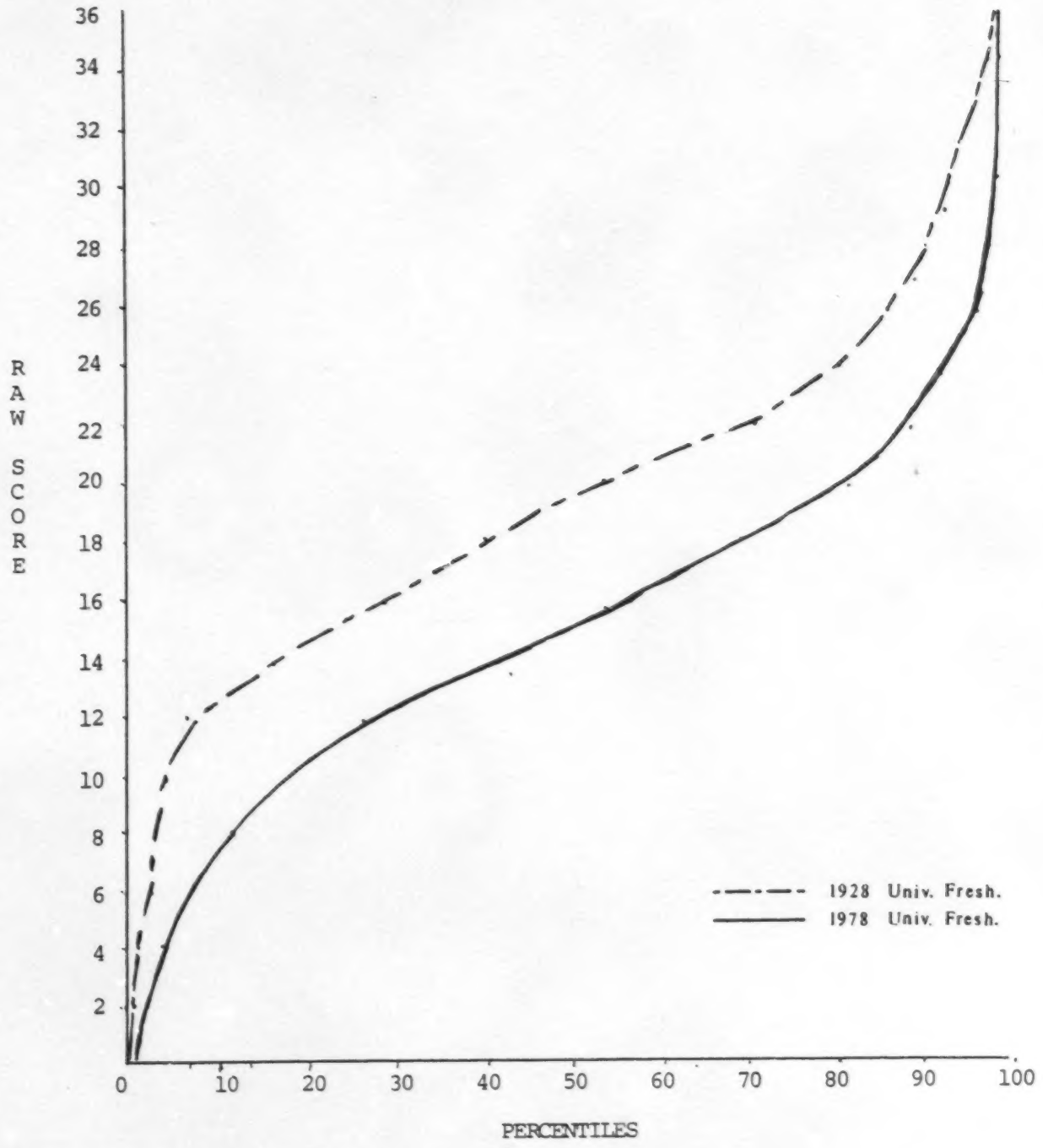
On reading rate (Minnesota Speed of Reading Test), the decline in mean scores ($\bar{X}$ = 2.62) from the 1928 group ($\bar{X}$ = 17.63) to the 1978 sample mean ($\bar{X}$ = 15.01) is shown on Figure III, and is representative of the large majority (80%) of students taking the test. Although approximately 54% of the 1928 University freshmen scored 20 or below, 81% of the 1978 freshmen did so--a striking and highly significant statistical difference.

Conclusions

On the vocabulary, reading comprehension, and rate of reading tests, the 1978 University freshmen scored significantly lower than their 1928 counterparts. The 1978 freshmen were at least one grade level below the 1928 students on

FIGURE III.

THE MINNESOTA SPEED OF READING TEST



reading ability. In other words, the 1978 freshmen read no better than high school seniors or juniors fifty years earlier. Because student performance in college is dependent on vocabulary skills, reading comprehension, and reading rate, the freshmen today, at least at the University of Minnesota, cannot cover as much ground in a given time interval or comprehend what they read as well as students a half century ago. Judging from other studies covering a shorter time span, students at the University of Minnesota are not unique in this regard.

In a pertinent longitudinal study, Jeanne Chall (1978) at Harvard compared the readability levels of textbooks with SAT (Scholastic Aptitude Test) and achievement scores from 1947 to 1975. She discovered that the readability level of elementary texts is higher than that of ten years ago. Although the readability level of high school texts has remained the same, it has always been below actual grade level (i.e., at the ninth or tenth grade level). Although educators argue that the easier readability level enhances the ability to comprehend new concepts, Chall concludes that

high school texts have never adequately challenged high school students. Moreover, SAT reading selections had the highest readability levels of the measured texts (eleventh grade to junior year in college). She found compelling evidence to support the theory that "a positive relationship exists between the level of challenge in textbooks" and achievement scores, especially during the early elementary grades, when reading material is more difficult and achievement scores are higher. This relationship is not as evident at the high school level; however, lower SAT or ACT verbal scores may indicate that unchallenging reading material is being used in high schools--another cause for poor performance on reading tests.

Many reasons have been advanced for the decline in test scores. Probably the most thoughtful and extensive analysis of the problem was made by an Advisory Panel, under the chairmanship of Willard Wirtz, whose task was to review the causes for declining test scores on the Scholastic Aptitude Test. The Advisory Panel pointed out that "two-thirds to three-quarters of the scores decline from 1963 to 1970 were caused by . . . the changing membership in the

population tested." Most likely, this phenomenon of a changing test population has also occurred at the University of Minnesota. During 1928, few students finished high school and yet fewer considered college as compared to 1978; but, changes in the membership of the test population do not fully explain declining test scores. The Advisory Panel identified the following societal and educational changes as other possible causes:

1. A reduced number of required courses, particularly in English and verbal skills.
2. Diminished seriousness of purpose and attention to mastering of skills and knowledge in the learning process.
3. Increased emphasis on learning through viewing and listening rather than through traditional modes.
4. Changes in the role of family in the educational process.
5. Changes particularly between 1972 and 1975 through the disruption in the life of the country.
6. Marked diminution in learning motivation.

Although these observations are all pertinent, they remain speculative. No clear-cut evidence exists on the reasons for the decline. Many other factors in our modern

technological society distract students from reading tasks: noise; crowded urban settings; speed of transportation; the knowledge explosion, making it impossible for even the most learned and specialized to keep up with a given field; the transformation from a local to a global society; and, improved communications technology, making information available instantaneously, not through the printed word, but through satellites and television. All these developments are contributing factors in our modern, complex, and rapidly changing society.

Certainly, an over-riding and all-pervasive factor is our drastic and startling change in human and social values. Can it be that we are placing less and less emphasis on the importance of reading and other more traditional modes of learning? Can it be that through our technological means of communication, we are becoming "headline" learners giving less and less attention to substance and the beauty of language? Can it be that we have become so fascinated by a rock bouncing over the surface of the water without recognizing that it finally sinks? These are basic philosophical questions that in the end will determine the importance we attach to reading and, perhaps, our ultimate destiny.

TABLE 1

Comparison of 1928 and 1978 University of Minnesota Freshmen on Vocabulary, Reading Comprehension and Rate of Reading

	Vocabulary		Reading Comprehension		Rate of Reading	
	1928	1978	1928	1978	1928	1978
N	1313	865	1313	865	972	880
Mean	34.90	28.75	15.45	12.75	17.63	15.01
Standard Deviation	14.27	11.27	4.30	4.31	7.10	5.94
Difference	- 6.15		- 2.71		- 2.62	
Significance Ratio	-12.51		-14.39		- 8.57	

HIGH SCHOOL SENIORS	1928	1928
N	4191	4191
Mean	34.95	14.38
Standard Deviation	13.55	4.20

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